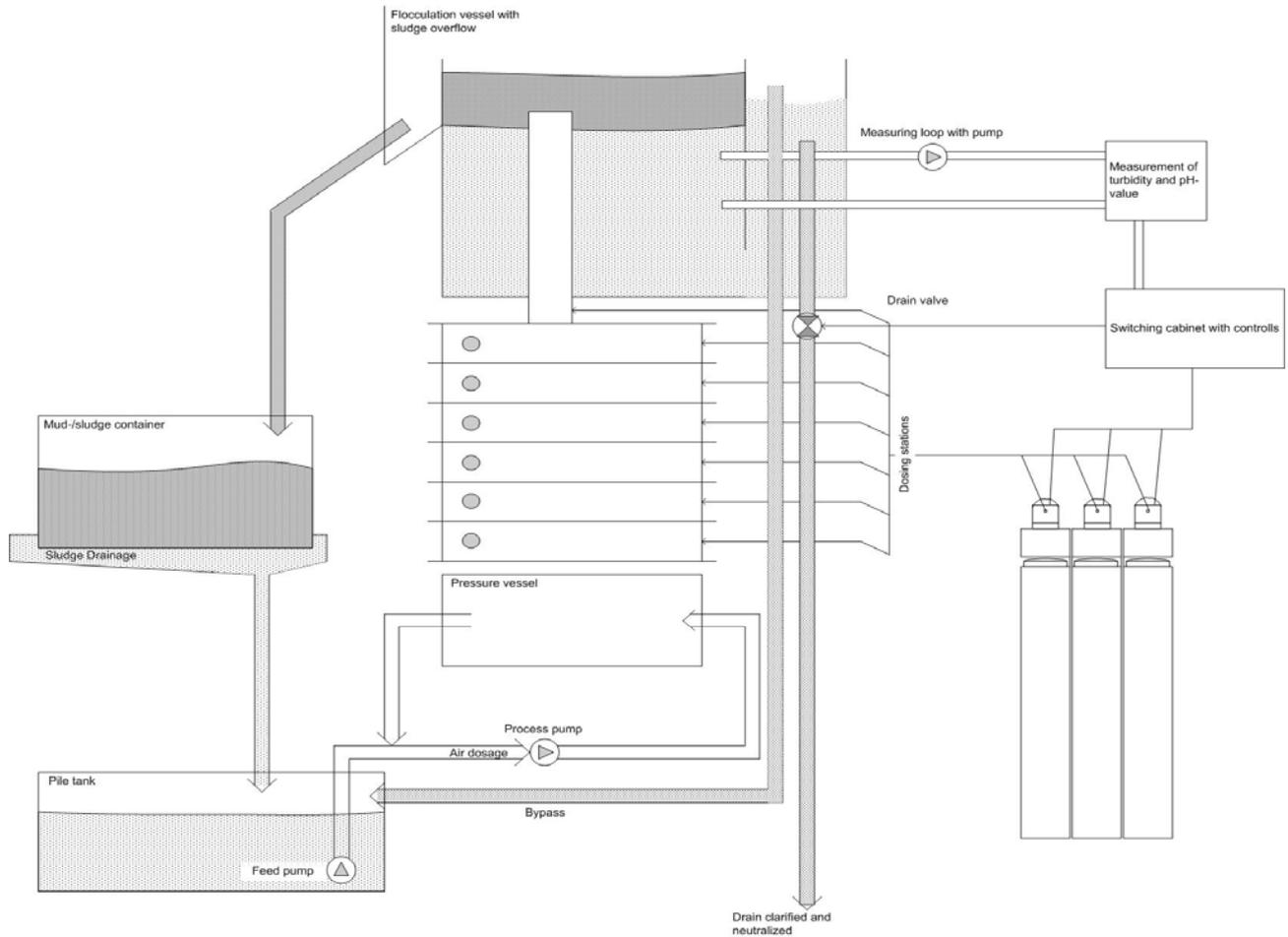




## LUGAN process



### Process steps

The LUGAN process is designed for a wide spectrum of waste water contamination. The combination of different processing methods separates nearly all colloidal impurities in one cycle.

### Air entrainment

The entrainment of the smallest possible air bubbles into the waste water constitutes the crucial part of the pressure release flotation plant. In the patented LUGAN cycle, the process pump mixes air to the waste water, which is under pressure. The little air bubbles provide the necessary buoyancy for the decantation of waste water. The surface charge of the air also has a cleaning effect. The waste water leaving the pressure vessel arrives into the reactors for pH restoration and flocculation.

### pH restoration

Many flocculants do not have a neutral pH. The reaction of the flocculants with the little air bubbles depends on their pH value. Legal regulations on the pH value at the outlet must also be respected. The LUGAN process includes acid and basic corrections.

### Flocculation

The colloidal impurities are destabilised (coagulated) in the flocculation reactors. The floc formed in several steps by adding metallic salts, anionic and cationic polyelectrolytes can be optimally separated from the water. The type and amount of flocculants strongly depend on the field of application. The relevant operating parameters are determined in pilot trials.

The cost of flocculants contributes significantly to the running costs. The choice of the most effective flocculants determines in a large measure the economic efficiency and the degree of purification

Decantation

The sludge is separated from the water in the flotation tank and the decanter. The form of the sintered PP material prevents clogging and provides an optimal sludge structure as well as the best water quality.

Sludge handling

The properties of sludge can be drastically improved by reflocculation. It provides a good dewatering in the sludge container, hence a small volume.